

Sofia University "St. Kliment Ohridski"
Faculty of Mathematics and Informatics
Department "Information Technologies"

Subject: Application of Informational Technologies in Telerobotics

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Speciality: Informatics

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Purpose:

The aim of this diploma is an introduction to telerobotics and its connection with the informational technologies.

Intro:

There have been used some basic terms and notions related to the telerobots, their description and use. Short historical introduction to the programming languages used for building robots is made. There have been described some of the existing languages for remote control - RoboML, XRCL, two and three dimensional visualization - SVG, VRML, along with the role of the human in this system. They are based on XML, which is taken as a base because of his multifunctional and upgrade ability. Big attention is given to some of the most popular chirurgical telerobotic systems as ZEUS and da Vinci, and thus way is shown their effectiveness and necessary use in the praxis.

Goal:

- Introduction to robots, their types, and fields of use.
- Description of their functionality and behavior.
- Description of control and visualization systems, as well as the languages used to control them.
- Application of telerobotical systems in medicine.
- Сравнителен анализ на двете най-разпространени телехирургични системи.
- Parallel analyses between the two most advanced telesurgical systems

Conclusion

In conclusion, we can say that the diploma has achieved the basic goals planed above.

In further expansions we should analyze more deeper the role of the artificial intelligence and his increasing involvement in the telerobotic systems, thus way optimizing its efficiency.

Date: 25 June 2007